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ABSTRACT

This resource bulletin focuses on Student Team Learning and Learning Together as practiced in secondary schools. Student Team Learning involves both cooperation and competition. It emphasizes the three ideas of cooperative activity structure (success in the task requires contributions from all members); cooperative reward structure (group members are rewarded for group success); and individual accountability (the individual's contribution to the group's success is clear). In Learning Together, teachers use different methods to nurture a philosophy of cooperation based on five elements: positive interdependence, face-to-face interaction, individual accountability; social skills, and group processing. Working in groups on assignments to produce a single group product, students are instructed to seek help from one another before asking the teacher for assistance. (JD)

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National Center on Effective Secondary Schools

Resource Bulletin: Cooperative Learning.

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resource bulletin

NATIONAL CENTER ON EFFECTIVE SECONDARY SCHOOLS

Number 4, Spring 1988

School of Education
University of Wisconsin–Madison

This issue:

Cooperative Learning

Two views on how it is implemented in secondary classrooms.

Research and development on cooperative team learning has blossomed since the early 1970s, but most of the work has occurred in elementary school classrooms. A recent review included only 14 studies of cooperative learning in grades 9-12, but these tended to confirm consistently positive effects of cooperative learning techniques on student achievement, compared to traditional whole-class instruction and to individual seatwork (Newmann and Thompson, 1987).

There are several approaches to cooperative learning, but most assume a traditional classroom of one teacher, with students organized into heterogeneous ability groups of four to five students who work together to learn academic material. Here we focus on two general strategies that have received the most attention: Student Team Learning and Learning Together.

Student Team Learning, developed by Robert Slavin and colleagues at Johns Hopkins University, involves both cooperation and competition. It emphasizes the three ideas of cooperative activity structure (success in the task requires contributions from all members), cooperative reward structure (group members are rewarded for group success), and individual accountability (the individual's contribution to the group's success is clear). Students help members of their team learn the material. Then they take individual quizzes or compete with students of similar ability from other teams. The results of individual performance are added to compose team scores, and teams compete to achieve the best performance.

Learning Together, developed by David and Roger Johnson at the University of Minnesota, has a less specific methodology. Teachers use different methods to nurture a philosophy of cooperation based on five elements: positive interdependence, face-to-face interaction, individual accountability, social skills and group processing. Working in groups on assignments to produce a single group product, students are instructed to seek help from one another before asking the teacher for assistance. They are usually rewarded through teacher praise, grades, tokens and privileges, based on a combination of individual and group performance. But neither individuals nor groups compete with one another.

Surveys of the extent of cooperative learning in secondary classrooms are not available, but in our research in high schools across the country, we have rarely found it. There might be several explanations for this. Perhaps high school teachers view their students as less responsive to the kinds of rewards that cooperative techniques have included in earlier grades; for example, recognition in a class newsletter, tokens, or special privileges. Compared to younger children, teenagers may have more of an instrumental self-interest in school, preferring to receive knowledge directly from the more knowledgeable teacher, rather than "wasting time" teaching and learning from peers. High school teachers who feel the pressure to cover large amounts of complicated material and who, in contrast to teachers in lower grades, spend less time each day with their students, may also perceive great inefficiencies in relying upon students to teach one another, especially if the new approaches require additional training and practice time.

Nevertheless, the impressive success of cooperative team learning in secondary as well as elementary classrooms invites a closer look at the experience of those teachers who find it useful to depart from the traditional classroom script. This bulletin presents conversations with two such teachers, along with annotated bibliography for further reading.

The National Center on Effective Secondary Schools conducts research on how high schools can use their resources to enhance student engagement in order to boost the achievement of all. Its studies deal with higher order thinking in the curriculum, programs for students at risk, the stratification of learning opportunities, working conditions of staff, and noninstructional influences on adolescents' achievement. In the Fall and Spring of each year, the Center publishes a newsletter that offers analyses of substantive issues as well as a resource bulletin on practical topics. The Center welcomes reactions from readers.

This resource bulletin is prepared by Anne Turnbaugh Lockwood at the National Center on Effective Secondary Schools, Wisconsin Center for Education Research, School of Education, University of Wisconsin-Madison, which is supported in part by a grant from the Office of Educational Research and Improvement (Grant No. OERI G008690007). Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the editor and authors and do not necessarily reflect the views of this agency or the U.S. Department of Education. Please address correspondence to Anne Turnbaugh Lockwood, Dissemination Coordinator, National Center on Effective Secondary Schools, University of Wisconsin-Madison, 1025 W. Johnson Street, Madison, WI 53706. Telephone: (608) 263-7575.

Cooperative Learning

In the following interviews, we talked to two teachers about their classroom experiences with different cooperative learning techniques. Represented is one of Robert Slavin's Student Team Learning techniques; also David and Roger Johnson's Learning Together concept. In these interviews, we were interested in learning how these techniques translate into actual classroom practice and also how cooperative learning can affect both teachers and students.

Elaine Preston:

Student Teams–Achievement Divisions

Elaine Preston has been a history teacher for twenty-two years and currently teaches at Southern Senior High School in Harwood, Maryland, a rural school with a racial and economic cross-section of students. Preston has been trained to use the Student Teams-Achievement Divisions approach of Student Team Learning (STAD) by personnel from the Center on Elementary and Middle Schools at Johns Hopkins. She implemented it in her classroom two years ago at both the 10th and 11th grade levels, mostly with college prep students.

"I've found STAD extremely effective," Preston says, her voice radiating enthusiasm and energy. "It allows for a flexibility in the classroom that I've always wanted to achieve."

She describes some specifics about using STAD. "First I divide the class into teams. It's preferable to have four students on a team, certainly no more than five. You have one high achiever, one low achiever, and two average achievers on the team. And you have to prepare the kids so they know exactly what they're doing and how they're going to do it. Stressing the general idea of cooperation is also really important.

"Each team gives itself a name. The name is supposed to be indicative of the group or of the history they're studying. Choosing a name is the first thing students actually do as a team and sometimes it's the hardest thing to do—reach consensus. We write their team names on the board and this is how they're recognized. For instance, one group called themselves the Wobblies, after the labor party.

"A wonderful thing about STAD—as far as I'm concerned—is that the teacher uses the teaching techniques he or she normally uses to convey information, lectures, filmstrips, whatever. Then you have students divide into their groups and you give two worksheets to each group."

Preston explains that "students are going to answer the questions orally. The group assignment is not a written assignment. Frequently they've already had a written assignment. They've read this information, it's not new to them. It is information that they should understand. They are supposed to answer these questions in order to get ready for their quiz. In a sense, the group provides reinforcement for what has been learned."

The questions on the worksheet stimulate higher order thinking, according to Preston. "I include questions on the worksheet that are not strictly informational kinds of questions. What we're really trying to do is get the kids to think, to work and to reason.

"It's so gratifying to see kids *like* to learn, to meet with success and to have that variety in the classroom situation."

"For example, if we're doing a unit on Teddy Roosevelt, instead of asking, "What was the name of Teddy Roosevelt's third party?", I would probably ask, "What role did Teddy Roosevelt's third party play in the election and what was the significance of its name?". You make a question more encompassing by asking something that's going to get the kids to use the information they have.

"While this is going on, the teacher gets the opportunity to work with the kids and gets to know them so much better than in a normal classroom situation. The teacher's role is to go around to different teams, monitoring what's going on, making sure they're on task."

Students work to help one another in the group, because individual success is tied to group success. Each student takes the quiz, and the individual scores contribute to a team score. Ultimately, however, the individual's achievement is what counts. Preston says, "You emphasize with the students that the only grade that's going in the grade book is the individual's grade. After they take the quiz you compile all the quiz grades and get a team average. That's the basis on which you rank the teams. Teams are ranked as super, great, and good. And, in a sense you are competing against your own previous scores. When the teams are ranked, they're looking at each other in terms of who is a super team, who is a great team, and so on. But in reality what you're doing is based on what you've done on the quiz before, because we have improvement points." Teams remain together for the length of a unit and then members are reassigned to ensure that students learn to cooperate with everyone.

Preston says there is support at her school for cooperative learning techniques, although she is the only teacher who has used cooperative learning techniques for any length of time. "Let's face it, not everyone's going to buy into it. But there are enough teachers on our staff who are very open to new ideas."

Preston finds that cooperative learning techniques enliven and enrich her teaching. "After twenty-two years of teaching, you need a shot in the arm. This has given me that. It's so gratifying to see kids *like* to learn, to meet with success and to have that variety in the classroom situation."

Roy Smith:

Learning Together

Roy Smith teaches ninth grade English at Central Junior High School in Hingham, Massachusetts. He is firm in his conviction about the effectiveness of the Learning Together model of David and Roger Johnson. "At the beginning of the year, I introduce my students to cooperative learning by explaining to them that the majority of our activities will be cooperative activities. There will be some individual work in preparation for group work but we're going to focus on working together. The old model of the teacher putting students together and appointing some students as leaders means that some students sit back and let the leader do all the work.

"The model we use tells students that everyone is a leader and anything they do to get the job done is a leadership behavior. Someone recording information is a leadership behavior. Someone saying, 'we've got five minutes to go, let's work more quickly,' shows a leadership behavior."

During our conversation, Smith mentioned William Glasser's book, *Control Theory in the Classroom*, which presents one of Smith's lesson plans in great detail. In this activity, which occurs over two to four days, the primary goal is for students to help one another write high quality essays.* Students are divided into groups of four which include high, medium, and low achieving students (both male and female) in each group. The activities are divided into steps.

1. Students discuss what might be taken on an imaginary trip into the future, what they might investigate, and what should be reported upon their return.

2. Each student writes a funding proposal for such a trip which describes what they will take, investigate, and report.

3. Group members edit each other's proposals suggesting improvements in grammar, spelling, and substance.

4. Each student reads a short story about a time traveler who visits the future and returns. Students then offer tentative interpretations of the story's meaning.

5. Group members are given factual, interpretive, and evaluative questions about the story and must reach a consensus on answers.

6. Each student writes an essay giving reasoned judgments of the behavior of the fictional time traveler.

7. Group members carefully edit two other students' compositions. All revised compositions, with the names of the editors included, are turned in.

In addition to reviewing the group's editing, the teacher checks for errors the group failed to find and deducts a small number of points on each essay for mechanical mistakes. Each student is given an individual grade based on the content of his or her essay. If the group did a thorough job in editing each other's work and executing the roles assigned to them, the teacher gives bonus points to the group as a reward. Students' roles are randomly assigned at the beginning of the learning activity and include "encourager of participation," "praiser," "summarizer," and "checker."

Smith currently team-teaches a humanities course with another English teacher and a history teacher. "We share fifty students. The history teacher has all fifty and the other English teacher and I split the kids for English. The three of us frequently get together to plan activities for the course. For instance, one of our activities is a medieval newspaper. What we try to do for the kids is get them together, make the assignments, and model the cooperation that we expect from the kids. Then we're available as resources. We go around to each group, monitor, help, and so forth."

Smith is a strong advocate for cooperative learning. "When students are sitting in front of you, 25 to 30 at a time, you have no idea what's going on in their heads. You assume they're listening. But you might have as many as two-thirds of the class daydreaming. In a cooperative class with a high level of interaction, it becomes quite clear which students need help. You see problems kids have interacting with their classmates, with basic communication skills, with life skills. So there is that benefit of identifying kids who need special attention.

"Also, students become much more responsible for their own learning. They become much less reliant on me. At the beginning of the year I get a lot of kids coming up and asking me questions about what the assignment is or what they're supposed to do. I try to turn it back to them and ask if they have asked the people in their group. Gradually they can learn to use one another to clarify assignments, to share information, and to learn."

—Anne Turnbaugh Lockwood

*For a fuller description of this learning activity, see *Control Theory in the Classroom* by William Glasser, M.D., published by Harper and Row, New York, 1986, pp. 99-101.

A Summary of Other Cooperative Learning Techniques

Beyond Student Team Learning and Learning Together, there are other approaches to cooperative learning (Newmann and Thompson, 1987). These also assume a traditional classroom of one teacher and many students, organized into heterogeneous ability groups of four to five students working together to learn material. Two of these approaches are summarized below.

Jigsaw (Aronson, 1978). Each student in a five- to six-member group is given unique information on a topic that the whole group is studying. After reading their material, the students meet in "expert groups" with their counterparts from other teams to discuss and master the information. Next they return to their teams to teach it to their teammates. In a variation called "Jigsaw II" (Slavin, 1980), all students are first given common information. Then student "experts" teach more specific topics to the group. Finally, students take tests individually, and team scores are publicized in a class newsletter.

Group Investigation (Sharan & Sharan, 1976). Students work in small groups, but each group takes on a different task or project, and within groups, students decide what information to gather, how to organize it, and how to present what they have learned as a group project to classmates. In evaluation, higher level learning is emphasized.

References

Aronson, E. (1978). *The jigsaw classroom*. Beverly Hills, CA: Sage.

Newmann, F. M. & Thompson, J. A. (1987). *Effects of cooperative learning on achievement in secondary schools: A summary of research*. Madison, WI: National Center on Effective Secondary Schools.

Sharan, S. & Sharan, Y. (1976). *Small group teaching*. Englewood Cliffs, NJ: Educational Technology Publications.

Slavin, R. E. (1980). Cooperative learning. *Review of Educational Research, 50*, 2, 315-342.

For more information on the methods described in the teacher interviews, see:

Slavin, R.E. (1986). *Using student team learning, 3rd edition*. Baltimore, MD: Center for Research on Elementary and Middle Schools, The Johns Hopkins University.

Complete instructions are included for implementing two general team learning methods, Student Teams-Achievement Divisions (STAD) and Teams-Games-Tournaments (TGT). Descriptions of programs for arithmetic and language arts are also included.

Johnson, D.W., Johnson, R.T., Holubec, E.J., & Roy, P. (1984). *Circles of learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

This monograph provides a brief introduction to cooperative learning and is written for parents, teachers and administrators. In their overview, a detailed example is provided of an exemplary district's implementation of cooperative learning.

Graves, N. and Graves, T. (1987). *Cooperative learning: A resource guide*. Santa Cruz, CA: International Association for the Study of Cooperation in Education.

This comprehensive annotated bibliography covers several specific cooperative learning strategies, classroom climate, and cooperative learning in the areas of sports and games, science education, mathematics, computers, social studies, language arts, and second language learning.

Organizations to contact for more information:

Center for Research on Elementary and Middle Schools
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(301) 338-7570

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The Cooperative Learning Center
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University of Minnesota
Minneapolis, MN 55455
(612) 624-7031

International Association for the Study of Cooperation in Education
136 Liberty Street
Santa Cruz, CA 95060
(408) 429-6550

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The Effects of Stratification in Secondary Schools: Synthesis of Survey and Ethnographic Research, by Adam Gamoran and Mark Berends, $5.

Effects of Cooperative Learning on Achievement in Secondary Schools: A Summary of Research, by Fred M. Newmann and Judith A. Thompson, $5.

Staff Development for Effective Secondary Schools: A Synthesis of Research, by Robert B. Stevenson, $5.

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